

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claim Amendments

Claim 1 has been amended to require both a treatment for removing a polyanionic substance of a protein raw material origin and a treatment by addition of a polycationic substance, thus being directed to the “combination of A and B” previously set forth in claim 1. This claim has also been amended to further describe a heat treatment step. Support for such amendment can be found on page 10, lines 4-8 of the specification.

Claim 1 has also been amended to further define that the solution of soybean protein is not subjected to a protease treatment. Support for such amendment has been incorporated by reference to Patent Document 2 (WO 02/067690 (see page 6, line 2 of the specification), corresponding to US 7,465,470) on page 9, lines 11-14 of the specification. Patent Document 2 describes the process for producing a **soybean protein** (column 2, line 57 to column 3, line 11 of US ‘470) and the process for obtaining a **soybean protein hydrolysate** by a **protease treatment** (column 3, line 30-42 of US ‘470). The production process for the acid soluble soybean protein of the present invention corresponds to the former process of US ‘470 for producing the soybean protein.

Specifically, Patent Document 2 expressly states that **hydrolysis of a protein (i.e. protease treatment) is undesirable** (column 4, lines 51-53 of US ‘470). Therefore, the process for producing a **soybean protein** (not a **soybean protein hydrolysate**) as described in Patent Document 2 is a process excluding protease treatment.

Accordingly, a person having ordinary skill in the art would understand that the process of the present invention, which utilizes an acid-soluble **soybean protein**, excludes a protease treatment. Applicants have amended claim 1 to clarify that an acidic-soluble soybean protein is **not** a hydrolysate thereof.

New claim 8 has been added by this amendment. Support for such claim addition can be found on page 9, line 5 to page 10, line 11 and page 16, line 25 to page 17, line 3 of the specification.

No new matter has been added by this amendment.

Arguments

The rejection of claims 1-3, 5 and 6 for reasons of record as being unpatentable over Blake et al. (US 4,368,211, hereinafter Blake) in view of Bradford et al. (US 4,375,431, hereinafter Bradford) is respectfully traversed.

Amended claim 1 is directed to an acidic whipping cream, or it's whipped or dried powdery product comprising as an essential component, acid-soluble soybean protein obtained by a combination of treatments; removing a polyanionic substance and adding a polycationic substance, followed by heat treating the soybean protein under acidic conditions.

Blake only discloses the use of soybean protein hydrolyzate as whipping agents. See columns 5-6, item "D. WHIPPING AGENT". Blake fails to disclose the steps of removing a polyanionic substance and adding a polycationic substance before a heat treatment under acidic conditions.

Bradford uses aluminum ion for **inactivating** a polyanionic substance. However, step (A) of claim 1 is defined as a treatment for **removing** a polyanionic substance of a protein raw material origin. Accordingly, Bradford fails to teach or suggest an essential element of claim 1.

Therefore, even if the Blake and Bradford references were combined, a person having ordinary skill in the art would still fail to achieve the presently claimed invention since neither reference teaches or suggests the **removing** of a polyanionic substance of a protein raw material origin.

As discussed above, Blake discloses a soybean protein hydrolyzate, which is obtained by enzymatically hydrolyzing the soy protein with pepsin (i.e. protease), as the whipping agent.

Moreover, the soybean protein isolate of Bradford is **hydrolyzed with protease** when used as a whipping agent. See Example 2 of Bradford. Further, Bradford describes that "the enzymatically modified 11S proteins are useful in foaming or whipping applications." See column 9, lines 3-4. It is clear that the phrase "**enzymatically modified**" means **treated with protease** because Bradford describes that "the bioavailability of such essential metal ions in the aluminum-treated protein systems of this invention thus permits effective **hydrolysis of vegetable proteins by these proteinases**". See column 9, lines 19-22, emphasis added. A person having ordinary skill in the art would not expect that the enzymatically modified protein of Bradford could include a protein modified with an enzyme other than protease. The Examiner seems to contend that the phytase treatment in Example 1 of the present specification

falls under the “enzymatically modified protein” definition of Bradford. However, based on the above explanation, this interpretation is clearly incorrect.

Further, both Blake and Bradford teach that the protease treatment is essential when using soybean protein as a whipping agent. However, the present invention utilizes the soybean protein as a whipping agent by a combination of processes (i.e. removing polyanionic substance and adding a polycationic substance, followed by a heat treatment under acidic conditions) that are distinct from the processes of Blake and Bradford. Specifically, the soybean protein whipping agent of the present invention exhibits good whipping property and shape-retention **without the protease treatment**. In other words, the acidic whipping cream of the present invention or its whipped or dried powdery product is patentable over Blake and Bradford because it contains a novel acid-soluble soybean protein.

Thus, even if Blake and Bradford were combined, a person having ordinary skill in the art would still fail to achieve the present invention.

Accordingly, the present invention is not obvious over these references.

Conclusion

Therefore, in view of the foregoing amendments and remarks, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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/Chao Gao/

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August 27, 2010